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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,704	11/24/2000	Kenichi Hirota	200062US0XPC	4539

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EXAMINER

KORNAKOV, MICHAIL

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/700,704

Applicant(s)

FUJISAWA

Examiner

Michael Komakov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Applicants amended the independent claim 1 and dependent claims to change from initially claimed "composition" to "cleaning solution" and to introduce the preamble that recites the intended use of the claimed composition.
2. Claims 13-18 are cancelled.
3. Claims 1, 3-12 and 19-21 are pending.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1, 3, 4 and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Han et al (U.S. 5,102,573).

Han discloses liquid, **caustic-free**, (alkali metal free) compositions that remove baked-on food residues from hard surfaces, which comprise:

- a) from about **1 to 40%, of a surfactant** selected from the group consisting of anionic surfactants, nonionic surfactants and mixtures thereof;
- b) from about 1 to 10% of a builder selected from the group consisting of polyphosphates, pyrophosphates, citrates, carbonates, and mixtures thereof;
- c) from about 0.2% to 2% of an amine selected from the group consisting of monoethanolamine, diethanolamine, triethanolamine and mixtures thereof;
- d) **water**;

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e) from about **3 to 50%** of a solvent, which solvent is selected from the groups consisting of:

- sulfolane, propylene glycol monomethyl ether acetate, dipropylene glycol monomethyl ether acetate, ethylene glycol monoethyl ether acetate, diethylene glycol monoethyl ether acetate, diethylene glycol dimethyl ether, ethylene glycol dimethyl ether, diethylene glycol diethyl ether, and mixtures thereof;
- ii) **diethylene glycol monobutyl ether, ethylene glycol monobutyl ether, and N-methyl 2-pyrrolidone** and **mixtures thereof**; and
- iii) a mixture of two solvents, the first such solvent comprising 5-17% of an acetate selected from the group consisting of ethyl acetate and n-propyl acetate, and the **second such solvent comprising 15-34% of a solvent selected from the group consisting of acetone, N-methyl 2-pyrrolidone .**

With specific regard to the limitation of claim 19 "10 ppb or less" this reads on the total absence of such traces of alkali metal.

Thus Han discloses the presence of all components of the cleaning composition, as claimed in the instant claim1.

With regard to a preamble to claim 1, as appears in the present amendment, the prior art reference disclosing the composition need not disclose a utility to defeat patentability under 35 U.S.C. § 102, **In re Schoenwald**, 964 F. 2d 1122, , 1123-1124, 22 USPQ 2d. 1671, 1672-1673 (Fed. Cir. 1992).

6. Claims 5 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Han in view of Griesshammer (U.S. 4,156,619).

Han does not specifically disclose the use of fluorine containing surfactant. However, Han clearly suggests that surfactant, such as anionic or nonionic **are equally operable in his invention.**

Griesshammer discloses a process for cleaning semiconductor discs by immersing the discs in a solution containing non-ionic or anionic surfactant (see abstract) The aqueous solution suitably contains from 0.3 to 5%, preferably from 0.8 to 1.5%, by weight of the cationic surfactant based on the weight of the solution. Suitable cationic surfactants are, for example, amine salts, quaternary ammonium salts, **and fluorine-containing surfactants based on fluorohydrocarbons,** or amphoteric surfactants according to their partly cationic character (see col. 2, lines 28-39). Therefore, based on the suggestion of Han one skilled in the art would have found it obvious to employ the fluorine containing surfactants of Griesshammer in the cleaning composition of EP'355 in order to impart hydrophobicity to the object and/or to ensure better dissolution of halogen containing contaminants ("like dissolves like"), and thus to arrive at the claimed composition.

7. Claims 7-11, 20, 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Griesshammer (U.S. 4,156,619) in view of Han.

Griesshammer discloses a method for cleaning **semiconductor discs,** the method comprises two basic steps: a) after discs are subjected to polishing operation

they are removed and b) immersed in a cleaning solution (see abstract and col. 4, lines 4, 5). The cleaning solution of Griesshammer comprises of a non-ionic or anionic surfactant and the rest is organic solvents and or water. (col. 2, lines 1,2). As solvents both polar and non-polar solvents can be used. (col. 2, lines 7-10). The temperature of cleaning process is preferably 50-80°C (col. 2, lines 22-23). Polyglycol ethers are utilized by Griesshammer in specific examples 1 and 2 in col. 3

Griesshammer **does** provide the cleaning steps with a surfactant solution in at the same temperature as instantly claimed in both polar and nonpolar solvents, but **does not** disclose the all the specificities of cleaning composition wherein the surfactant is present along such solvents as ethylene glycol monobutyl ether and N-methyl-2-pyrrolidone.

Han discloses the cleaning composition, identical to that as instantly claimed for cleaning as discussed above. Since Griesshammer provides a motivation to use a surfactant solution in both polar and nonpolar solvents for cleaning semiconductor discs, and since both ethylene glycol monobutyl ether and N-methyl-2-pyrrolidone are known to be part of surfactants as well as being routinely utilized solvents in cleaning processes, a person skilled in the art at the time the invention was made would have found it obvious to employ the solvents of Han in the process of Griesshammer in order to enhance the action of a surfactant and to impart the hydrophobicity to the substrate, as desired by Griesshammer, and thus to arrive at the subject matter of the instant claims.

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With regard to the limitations set forth in the preamble to the instant claim 7, which recites that the byproduct to be cleaned derived from a decomposed substance from a process gas containing C and F, it is noted here that, a preamble is not accorded a significant patentable weight since it merely recites the purpose of a process or the intended use of a method, and since the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are **able to stand alone**, as per **In re Hirao**, 535 F.2d 67, 190 USPQ 15 (CCPA 1976)

With regard to the limitations of claim 8, which is concerned with the cage wherein the component to be cleaned is stored, it is noted that this limitation is an apparatus limitation, which is not even an apparatus for performing the steps of the cleaning method, and since the operation is known in reference to the object, the invention of a new machine for performing it does not make a new process, but only a new instrument for applying it. **In re Tarezy-Hornoch**, 158 USPQ 141 (CCPA 1968)

Furthermore, structural limitations of apparatus in a process, which is otherwise met by the applied reference(s), are not given a significant patentable weight, unless these structural features present a manipulative difference in a process steps. In the instant case the size of a storage cage, as well as the presence of such cage does not present a manipulative difference, since the steps of the process as per (reference) can be performed without a cage.

Therefore, combination of references renders the above claims prima facie obvious and properly rejected under 35 USC 103(a).

With regard to the limitations of claim 10, its limitations are totally beyond, and are not related to the limitations of the cleaning process, as instantly claimed, but merely describe what had happen to the article much prior to the claimed cleaning process.

8. Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Han in view of EP'355.

Han provides a composition as instantly claimed. However, disclosure of Han differs from the instant claims by not providing exact ratio of N-methylpyrrolidone and ethylene glycol monobutyl ether.

EP'355 discloses a method of cleaning and reclaiming printing screens which provide synergistic activities. Cleaning composition contains N-methyl-2-pyrrolidone, an oxygenated solvent, such as butyl cellosolve (synonym for ethylene glycol monobutyl ether) and cyclohexanone, and a surfactant. (see abstract).

EP'455 teaches the presence of a surfactant from **1-5% from about 30-85% of N-methyl-2-pyrrolidone and about 10-35% of oxygenated solvent (butyl cellosolve)**. (claim 9, and Examples 1, page 14). These values are within the range of the instant claims. Since both EP'355 and Han recognize the ratio of solvents as a result effective value, and EP'355 emphasizes the synergistic effect of some solvents, a person skilled in the art would have found it obvious to find an optimum ratio by routine experimentation, such as done by EP'355 to achieve the most synergistic effect for a composition of Han, and thus to arrive at the instant claim 6.

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9. Claim 12 stands rejected under 35 U.S.C. 103(a) over Griesshammer (U.S. 4,156,619) in view of Han and in further view of EP'355.

Griesshammer (U.S. 4,156,619) in combination with Han disclose the process of claim 7, however, they do not specify the ratio of N-methylpyrrolidone to ethylene glycol monobutyl ether.

EP'355 discloses a method of cleaning and reclaiming printing screens with solvents that provide synergistic activities.

EP'455 teaches the presence of a surfactant from **1-5% from about 30-85% of N-methyl-2-pyrrolidone and about 10-35% of oxygenated solvent (butyl cellosolve)**. (claim 9, and Examples 1, page 14). These values and ratios are within the range of the instant claims. Since EP'355 emphasizes the synergistic effect of some solvents, a person skilled in the art would have found it obvious to find an optimum ratio by routine experimentation, such as done by EP'355 to achieve the most synergistic effect for the cleaning process of Griesshammer and Han, and thus to arrive at the instant claim 12.

Response to Arguments

10. Applicants' arguments with regard to Han reference have been fully considered but they are not persuasive. Applicants' arguments reside in contention that Han does not disclose N-methylpyrrolidone and ethylene glycol monobutyl ether as being usable together, but only as alternatives.

In response to this argument Applicants' attention is drawn to the abstract of

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Han, wherein N-methylpyrrolidone appears twice as a solvent (ii) where it can be used as alternative with ethylene glycol monobutyl ether, and as a solvent (iii), where it is used by itself, not as an alternative to an ethylene glycol monobutyl ether. Furthermore, in (ii), where only two!!! Solvents (di)-ethylene glycol monobutyl ether and N-methylpyrrolidone are used, Han explicitly teaches "or mixture thereof" (abstract, line 27). If there are only two alternative, and a mixture thereof is taught to be utilized, that means they both necessarily present.

Therefore, from the above statement of Han a person skilled in the art would have clearly envisaged the mixture of N-methylpyrrolidone and monobutyl ether of ethylene glycol. The prior art contains each of Applicants' instantly claimed ingredients and clearly shows to one of ordinary skill in the art that they be used in combination as claimed. Such anticipates Applicants' instantly claimed composition, and as such, the claims are not patentable.

The next Applicants argument is that Han has no example, wherein N-methylpyrrolidone and ethylene glycol monobutyl ether are used together.

In response to this it is noted that disclosed examples and preferred embodiments do not constitute a teaching away from a **broader disclosure or nonpreferred embodiments.** *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, **including nonpreferred embodiments.** *Merck & Co. v. Biocraft Laboratories*,

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874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998).

Furthermore, it is noted here, that evidence of the secondary considerations, such as unexpected results, as Applicants show in the Declaration under 37 CFR 1.132, is irrelevant to 35 USC 102 rejections and cannot overcome a rejection so based, *in re Wiggins*, 488 F. 2d 538,543, 179 USPQ 421, 425 (CCPA 1973), consult MPEP 2131.04

With regard to Applicants argument on the combination of Greisshammer and Han it is noted that the method steps are disclosed by Greisshammer, which is a major consideration in the claims directed to methods, and major components of the composition are taught, as well, and the motivation to combine those two references comes from "three sources: the nature of the problem to be solved, the teaching of the prior art and the knowledge of persons of ordinary skill in the art", as per *In re Rouffet*, 149 F3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

The crux of next Applicants arguments with regard to EP'355, is that composition of EP'355 lacks water. In response to this, it is noted that had the composition of EP'255 comprised water in addition to above mentioned components, the EP'355 would have been used as a sole reference in anticipation rejection.

In the instant case, however, EP'355 was not used alone, nor did the other references, but it was the combination of references wherein each reference is considered as a whole, and that constituted the obviousness rejection.

The EP'355 reference in no way teaches away from the ISSUE it was used to remedy, namely from considering the ratio of solvents, as being operable within the disclosure of the primary reference. The test under 35 USC 103 is not what the reference expressly or individually teach, but what their combined teaching would fairly have suggested to a person skilled in the art. In re Rosselet, 347 F2d 847,851, 146 USPQ 183, 186 (CCPA1965).

11. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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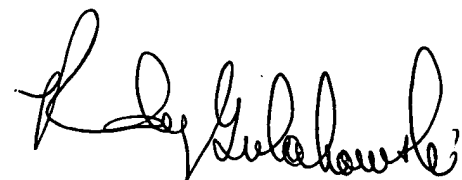
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (703) 305-0400. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872 9310 for regular communications and (703) 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 2450.

Michael Kornakov
Examiner
Art Unit 1746

MK
June 12, 2003

A handwritten signature in black ink, appearing to read 'Randy Gulakowski', is written over a rectangular stamp.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700